

Štefan KAROLČÍK<sup>1\*</sup> and Elena ČIPKOVÁ<sup>1</sup>

## PREGRADUAL PREPARATION OF TEACHERS IN SLOVAKIA

### ETAPY PRZYGOTOWANIA NAUCZYCIELI DO ZAWODU NA SŁOWACJI

**Abstract:** The contribution deals with the quality of pregradual preparation of teachers in the Slovak Republic. It analysis the causes of continuously decreasing number of secondary school graduates interested in teaching profession. The contribution evaluates present situation in pregradual preparation of teachers regarding the proportion of professional, pedagogical and psychological and didactic part. As far as the didactic part is concerned, the contribution points out the need for new approaches to be applied supporting digital technologies.

**Keywords:** pregradual preparation, Slovak teachers, bachelor degree, master degree, curriculum

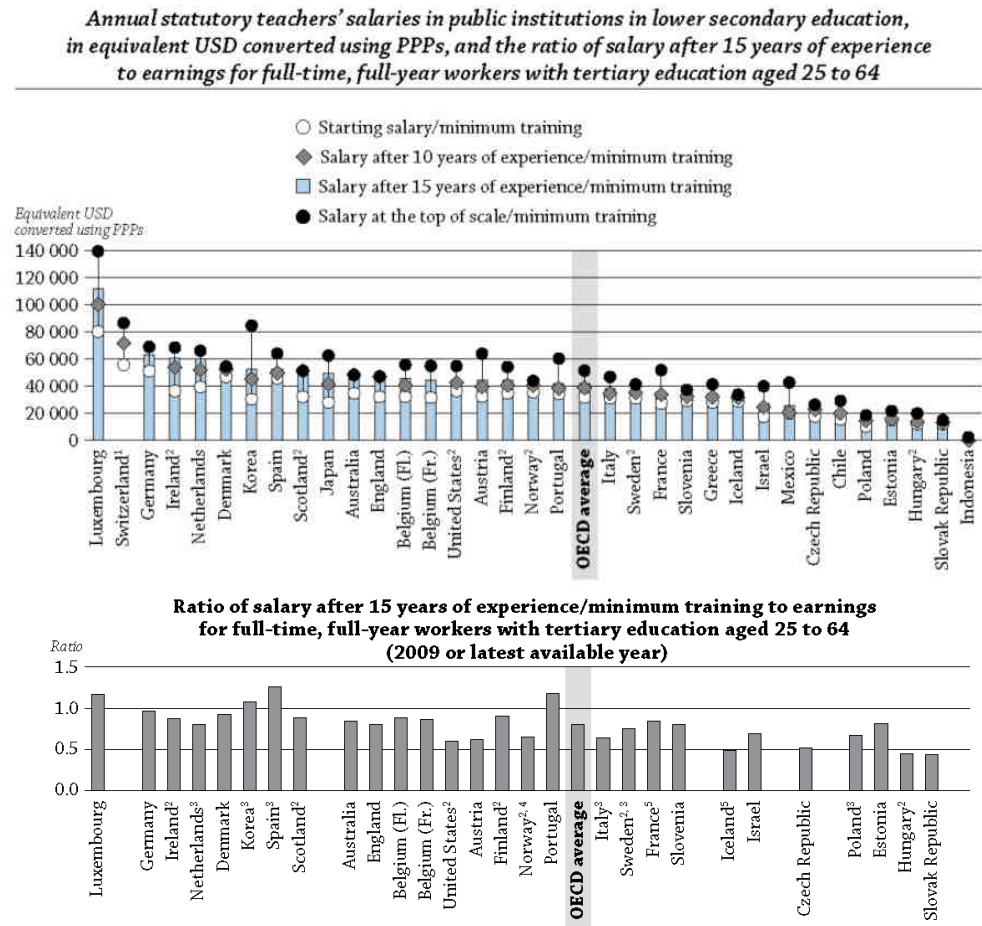
The investments in education are exceptionally efficient in the long term. Slovakia ranks among OECD countries with the lowest (private and public) expenses on educational institutions compared with GNP (4.0% in 2007) and also calculated per one student [1]. This fact is reflected in all aspects of financing the regional and university school system. The Slovak Republic takes places well below average of OECD countries on all levels of education especially with respect to personal expenses including mainly teachers' and pedagogical workers' salaries (Fig. 1). Thus the teacher belongs to a group of low-income public servants (in 2011, the profession of the teachers was on 5<sup>th</sup> worst-paid position within the industry structure of employees in the Slovak Republic [2]) which is automatically expected to deliver high performance, excellent educational results and quality teaching supported by introduction of progressive teaching methods using state-of-the-art digital technologies. Moreover, the teacher is required by the Act to work purposefully on his/her carrier growth and increase his/her qualification by passing 1<sup>st</sup> and 2<sup>nd</sup> attestation exam [3]. All at the time, when the salary of the beginner teacher at the secondary school is less than 65% of the average salary of the industrial employee in the Slovak Republic (€ 508.50/€ 786 in 2011) [4, 5]. The lack of qualified teachers with high fluctuation of especially beginner teachers is more obvious in richer regions of Slovakia where the difference

---

<sup>1</sup> Department of Didactics in Science, Psychology and Pedagogy, Faculty of Natural Sciences, Comenius University in Bratislava, Mlynská dolina CH2, 842 15 Bratislava, Slovak Republic, phone: +421260296313, +421260296314, email: cipkova@fns.uniba.sk

\*Corresponding author: karolcik@fns.uniba.sk

between the real teacher salary and the average salary of the industrial employee in the SR is the highest exceeding 25% [6].



1. Salaries after 11 years of experience.
2. Actual salaries.
3. Year of reference 2008.
4. Year of reference 2007.
5. Year of reference 2006.

Countries are ranked in descending order of teachers' salaries in lower secondary education after 15 years of experience and minimum training. Source: OECD, Indonesia: UNESCO Institute for Statistics (World Education Indicators Programme). Tables D3.1 and D3.2. See Annex 3 for notes ([www.oecd.org/edu/eag2011](http://www.oecd.org/edu/eag2011)).

StatLink <http://dx.doi.org/10.1787/888932461978>

Fig. 1. Teachers salaries (minimum, after 10 years experience, 15 years experience and maximum) in lower secondary education (2009)

Very low moral and financial appraisal of demanding teachers' work result in the lack of interest of the young generation in this kind of university studies and the real decrease in the number of graduates of teacher training in Slovakia (Table 1). Thus most of universities

cancelled entrance exams and they have no special criteria to be met by applicants for teacher training. The students with excellent educational results and appropriate personality value assumptions for teaching profession look for the fulfilment in other much better-paid professions.

Table 1  
Number of graduates of level I and II of teacher training in Slovakia (prepared according to the Institute of Information and Prognosis in Education, 2012)

	Graduates of Level I and II of Teacher Training		Graduates of Level I and II of Teacher Training		Graduates of Level I and II of Teacher Training	
	Daily and external form		Daily and external form		Daily and external form	
	as at 31 December 2009		as at 31 December 2010		as at 31 October 2011	
	total	women	total	women	total	women
Teacher training	4418	3143	1657	1065	1319	795
Teacher training in combinations	2786	2221	3400	2597	3036	2368
<b>Graduates in total</b>	<b>7204</b>	<b>5364</b>	<b>5057</b>	<b>3662</b>	<b>4355</b>	<b>3163</b>

Table 2  
Number of teachers at respective school types in the Slovak Republic (source Statistical Office of the SR, 2012)

<b>Učiteľia/Teachers<sup>1</sup></b>										
Základné a stredné školy - denné štúdium / Basic and secondary schools - Full-time study	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Učiteľia základných a stredných škôl / Teachers of basic and secondary schools	44 978	40 750	40 191	40 220	40 073	12 090	10 442	10 853	9 950	9 891
Základné školy / Basic schools	28 538	25 986	25 706	25 681	25 810	5 198	4 463	5 114	4 306	4 345
Gymnázia / Grammar schools	5 605	5 126	5 157	5 056	4 926	1 997	1 768	1 680	1 654	1 636
Stredné odborné školy / Specialised secondary schools	5 416	4 562	9 328	9 483	9 337	2 312	1 814	4 059	3 990	3 910
Združené stredné školy / Associated secondary schools	3 367	3 439	-	-	-	1 412	1 445	-	-	-
Stredné odborné učilišťa / Vocational secondary schools	2 052	1 637	-	-	-	1 171	952	-	-	-
Štruktúra učiteľov základných a stredných škôl [%] / Teachers structure of basic and secondary schools [%]	78.8	79.6	78.7	80.5	80.2	21.2	20.4	21.3	19.9	19.8
Základné školy / Basic schools	84.6	85.3	83.4	85.2	85.6	15.4	14.7	16.6	14.3	14.4
Gymnázia / Grammar schools	73.7	74.4	75.4	77.0	75.1	26.3	25.6	24.6	25.2	24.9
Stredné odborné školy / Specialised secondary schools	70.1	71.5	69.7	71.6	70.5	29.9	28.5	30.3	30.1	29.5
Združené stredné školy / Associated secondary schools	70.5	70.4	-	-	-	29.5	29.6	-	-	-
Stredné odborné učilišťa / Vocational secondary schools	63.7	63.2	-	-	-	36.3	36.8	-	-	-

<sup>1</sup> údaje Ministerstva školstva SR / Data of the Ministry of Education of the SR

All these factors lead to gradual increase of the average of teachers, higher number of teachers pensioners and high level of feminization on all school types, but especially at basic schools (in 2010, 85.6% of women worked at basic schools - Table 2, Fig. 2) [7].

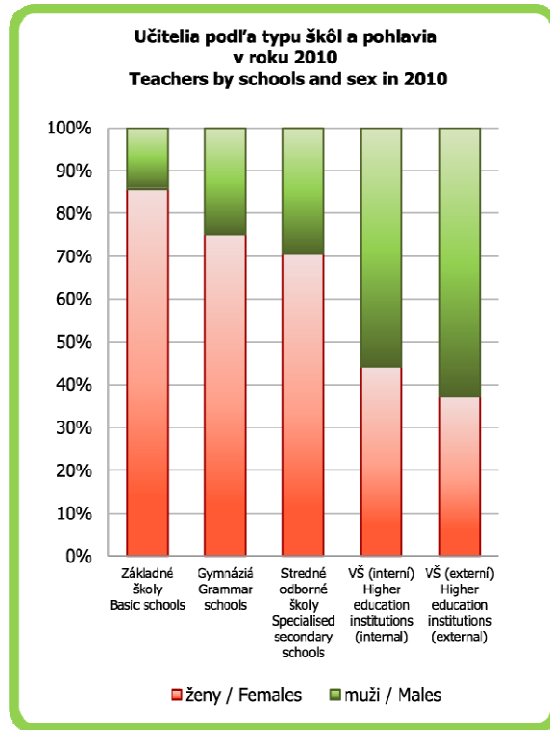


Fig. 2. Teacher structure at respective school types in the SR by sex (source Statistical Office of the SR, 2012)

In connection with legislation harmonization of EU countries in the area of education, the organization of the university teacher training was amended in the Slovak Republic. In spite of the fact that the teacher - bachelor has not real employment in the present system of education in Slovak Republic, this kind of studies, together with other fields, were transformed to a two-level credit model including bachelor and master degrees. Similarly, the preparation of basic and secondary school teachers is unified within university studies and study programmes for teachers at respective faculties differ only to a minimum extent. It is obvious from the above-mentioned that pregradual preparation of teachers at respective faculties faces lots of problems and open issues related to eg the proportion of the number of lessons for direct teaching of professional, pedagogical and psychological and practical part of the preparation, selection of the optimal content of education at respective levels of education, focus of specialized preparation, selection of presented didactic and pedagogical and psychological problems and the like.

## **Pregradual Preparation of Teachers at the Faculty of Natural Sciences of the Comenius University in Bratislava**

The tradition of preparation of natural science teachers at the oldest Faculty of Natural Sciences in Slovakia operating within the Comenius University in Bratislava started shortly after its foundation (1940) with teacher training lasting for 8 terms until 1948. Individual sections of teaching theory for natural science subjects originated in 1970's and 1980's at specialized vocational departments (1977 - chemistry, 1984 - geography and biology). Independent Department of Didactics in Natural Sciences later renamed to the Department of Natural Sciences, Psychology and Pedagogy was established in the school year 1986/87.

The Faculty of Natural Sciences of the Comenius University prepared teachers within double qualification studies. Teacher preparation is divided into professional, pedagogical and psychological (including didactic) and practical part of education. Pedagogical and psychological preparation with didactics is provided by the Department of Didactics in Sciences, Psychology and Pedagogy.

### **Bachelor Degree of Studies**

In the bachelor degree of teacher training, it is necessary to obtain 180 credits structured depending on the study programme to complete studies successfully. Standard study takes 3 years. The study programme enables the student to obtain not less than 70% of credits for compulsory and compulsory optional subjects out of the total number of credits necessary to complete the study. Compulsory optional subjects complete the nature of the study and together with choice subjects they enable the student to adjust the study plan to his/her individual needs. As a part of compulsory education, the bachelor studies focus on professional preparation of future teachers. Students can obtain 60% of credits for professional part of the preparation depending of the study programme of the given double qualification. At the same time, pedagogical and psychological preparation of teachers is emphasized from the first year focusing especially on attaining basic knowledge of general, developmental, educational and social psychology, the issue of learning from behavioural and cognitive aspects, impact of the family and school to personality development. In the 3<sup>rd</sup> year of the bachelor studies, the attention is drawn to the didactic part of preparation which aims at attaining the knowledge on methods, forms and tools of teaching natural science knowledge and attaining theoretical knowledge necessary to implement educational process at basic and secondary schools. The didactic part of the preparation is followed by the practical part which takes place directly at schools for 5 days per each qualification subject. The students participate in the pedagogical practice at basic and secondary schools (faculty schools) contracted and closely cooperating with the Faculty of Natural Sciences not only in the field of preparation of future teachers (pedagogical practice implementation, dealing with Bachelor's and Diploma Theses), but in research and development as well. The bachelor degree of studies is completed with the state exam consisting of Bachelor's Thesis, exam in vocational subjects within the given qualification and pedagogy and psychology.

### **Master Degree of Studies**

Master degree of teacher training usually takes 2 years and the student needs to obtain 120 credits structured depending on the study programme to complete studies successfully.

Master degree of studies focuses especially on pedagogical and psychological, didactic and practical part of preparation of future teachers (70% of credits for compulsory subjects). Didactic preparation aims at creating didactic competencies of the teacher of the given subject emphasizing the knowledge of curricular documents, specification of the basic curriculum of the given subject at basic and secondary schools and selection of progressive teaching methods and forms supported by digital technologies. In addition to specialized didactics for the given subject, the study plan includes subjects dealing with digital technologies and their use in teaching particular subject, technology and didactics of school observations and experiments (Biology, Chemistry) and didactic aspects of excursion implementation (Geography). The objective of subjects focusing on the use of digital technologies in qualification subjects of students is not only to obtain skills necessary to work with various hardware and software applications, but first of all to include these skills meaningfully in the cognitive process to improve it. As a part of school experiments, the students make familiar with the basic database of school experiments and observations to be used in common school practice. The exercises include learning didactic and practical aspects of experiment implementation and their inclusion in the cognitive process. The attention of students is also drawn to the use of digital technologies (measuring equipment IP Coach, Vernier and the like, sensors, digital microscope) for practical and laboratory exercises. Teaching directly through the excursion in the nature is an inseparable part of education in natural sciences and thus it is important that future teachers are able to prepare the content and deal also with the organization of school excursions. The ability of the student to include progressive teaching methods using inter-subject relations and digital technologies in the implementation of excursions is not less important.

Within the pedagogical and psychological part of the preparation the studies concentrate on learning basic knowledge of biodromal and educational psychology, psychology of a personality, issue of pedagogical communication, pedagogical diagnostics and methodology of pedagogic research. Pedagogical practice of 25 days for each qualification subject implemented in cooperation with the faculty schools is deemed to be the test of quality of professional, pedagogical and psychological and didactic preparation. The Master degree of studies is completed with the state exam consisting of the Diploma Thesis defence, exam in vocational and didactic subjects of the given qualification.

We continuously update (innovate) the curriculum of the study programmes of respective subjects adding experience and results of researches implemented at the Faculty of Natural Sciences of the CU in Bratislava. In its researches, the Department of Didactics in Sciences, psychology and Pedagogy focuses on the use of progressive methods and forms of education supported by digital technologies in teaching natural science subjects, impact of digital technologies to motivation of pupils, specification of content of the basic curricula documents and related verification of stipulated educational standards. For this purpose, the Department disposes of an excellent technical background consisting of computer servers (LMS server with Claroline a Moodle learning environment installed, video server with Adobe Connect Pro videoconference software, stream server for archiving and publishing video-records of experiments in natural sciences). Peak technologies such as Wi-Fi, 4G, video and audio equipment, software products, commercial educational environments and the like are also used in pregradual preparation of future teachers. The Department staff participate also in preparation of textbooks for basic and secondary schools. Experience and research results obtained within national and international projects are included not only in

the pregradual preparation of future teachers but also in further education of teachers in practice which the Department actively participates in.

## Conclusions

Slovak education has been facing the lack of funds in the long term. The lack of interest in conceptual solution of this problem results in accumulation of difficulties and deepens the crisis of the Slovak educational system. The preparation of future teachers is enormously difficult in the given social situation. The number of students enrolled to any of the fields of study programmes for teachers at the Faculty of Natural Sciences of the Comenius University in Bratislava has decreased more than 5 times since 2000 (in 2000 - 522 enrolled to 1<sup>st</sup> year, in 2011 - 101) [8]. Despite the mentioned problems we maintain traditionally high professional level of all parts of pregradual preparation of future teachers (professional, pedagogical and psychological, didactic and practical) focusing on implementation of the latest knowledge and developments of respective scientific discipline.

## References

- [1] Education at a Glance 2010 - OECD Indicators [on-line] [cit. 2012-06-16] available at: <http://www.oecd.org/dataoecd/45/39/45926093.pdf>.
- [2] Statistical Office of the: Average Monthly Salary by Industries in 2011 [on-line] [cit. 2012-06-16] available at: <http://portal.statistics.sk/showdoc.do?docid=35594>.
- [3] Act No. 317/2009 Coll. on Pedagogical Employees and on professional employees and on amendment and supplement of some acts [on-line] [quot. 2012-06-22] available at: [http://www.minedu.sk/data/USERDATA/Legislativa/Zakony/317\\_2009.pdf](http://www.minedu.sk/data/USERDATA/Legislativa/Zakony/317_2009.pdf).
- [4] Statistical Office of the SR: Average Monthly Salary in the industry of the SR in 2012 [on-line] [cit. 2012-06-16] available at: <http://portal.statistics.sk/showdoc.do?docid=48053>.
- [5] The Institute of Information and Prognosis in Education [on-line] [quot. 2012-06-16] available at: <http://www.uips.sk/statistiky/casove-rady>.
- [6] Statistical Office of the SR: Average Monthly Salary of the Industry Employee in the SR [on-line] [cit. 2012-06-16] available at: <http://portal.statistics.sk/showdoc.do?docid=1802>.
- [7] Statistical Office of the SR: Education [on-line] [cit. 2012-06-16] available at: <http://portal.statistics.sk/files/KrajskeSpravy/KE/gender2011/2/4-vzdelavanie-120-123.pdf>.
- [8] Annual Reports of the Faculty of Science of the Comenius University [on-line] [quot. 2012-06-16] available at: <http://www.fns.uniba.sk/index.php?id=2150>.

## ETAPY PRZYGOTOWANIA NAUCZYCIELI DO ZAWODU NA SŁOWACJI

**Abstrakt:** Omówiono jakość przygotowanie nauczycieli do zawodu w Republice Słowackiej. Przeanalizowano przyczyny stale zmniejszającej się liczby absolwentów szkół średnich zainteresowanych pracą nauczycieli. Dokonano oceny obecnego przygotowania nauczycieli do zawodu w zakresie kompetencji zawodowych, pedagogicznych, psychologicznych i dydaktycznych. Jeśli chodzi o część dydaktyczną, wskazano na potrzebe nowego podejścia do wykorzystywania technologii cyfrowych.

**Słowa kluczowe:** nauczyciele słowaccy, licencjat, magister, program nauczania